AVDC
Status and update

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Outline

- Status and datasets
- Cal/Val support
- Validation data centers
- Future plans

Status and datasets

Status

- Routine operations on-going (http://avdc.gsfc.nasa.gov)
  - *Hardware: 5/4/2 ops/backup/new server, 24 TB storage*
- Currently 350+ registered users
- $2.5*10^6$ pages accessed
  - *$59*10^3$ login access in last 12 months (~160/day)*
- ~9 TB downloads in last year (~24 GB/day)
- Total correlative data volume:
  - *~450 GB*
  - *correlative satellite datasets: ~5 TB*

Datasets (1)

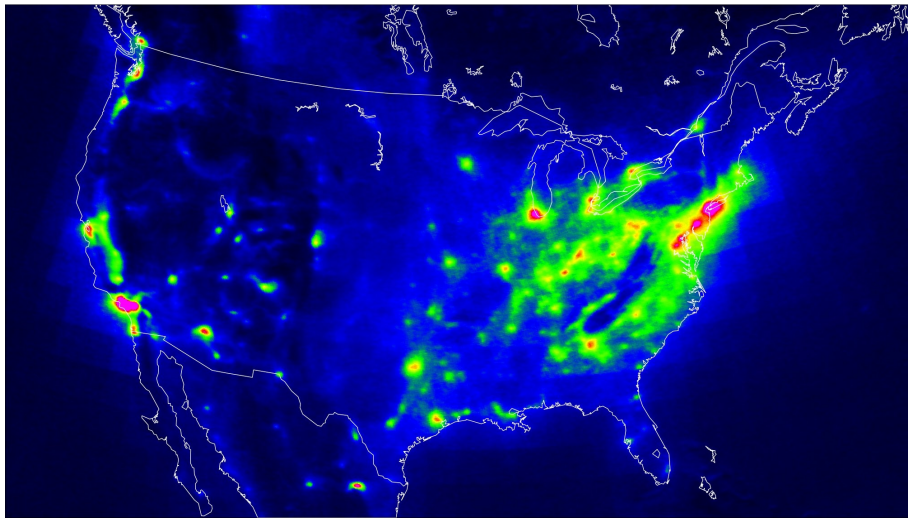
- Continue to mirror all Aura L2 data from DISC
- Maintain correlative datasets
  - *Balloon sondes*
  - *Brewer*
  - *LIDAR*
  - *MWR*
  - *FTIR*
- Maintain Aura related campaign archives
  - *SAUNA (1&2), WAVES, MOHAVE, etc.*
  - *Mirror aircraft/large balloon missions*
    - INTEX-A/B, AVE, ...

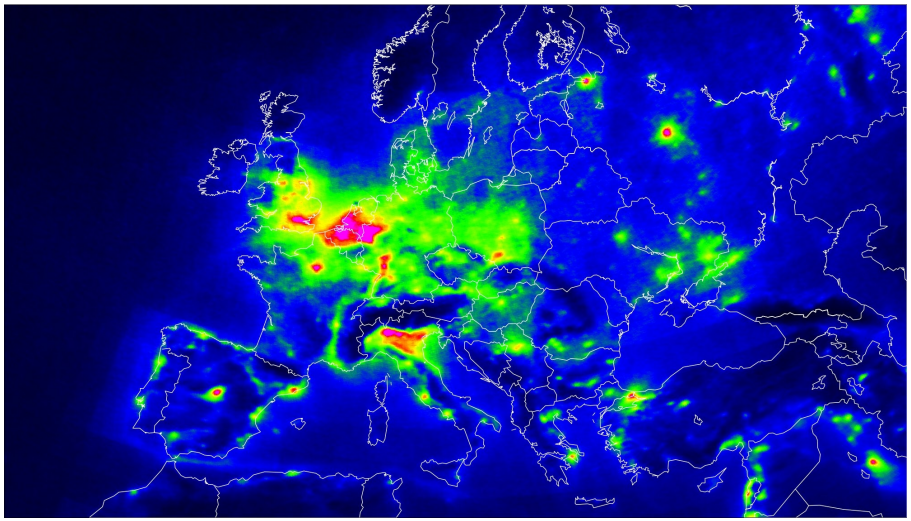
Datasets (2)

- Continue to host preliminary, experimental and complimentary satellite datasets:
  - *Aura preliminary datasets*
    - Tropospheric ozone residual (Schoeberl)
    - L3 datasets (OMNO2 0.25 x 0.25 and 0.05 x 0.05 deg)
  - *AIRS, Scisat ACE*
  - *NOAA 16-18 SBUV v8 profiles*
  - *Envisat GOMOS, MIPAS, SCIAMACHY (+CO2)*
  - *MetOp GOME2 (O3, NO2, SO2)*

Datasets (3) OMNO2 L3

Routine processing for daily and monthly OMI NO2 tropospheric and total column maps available as images, hdf5 or Google Earth files (Scientific product for J. Gleason (OMI NO2 PI))





Year 2008 average tropospheric NO2 column

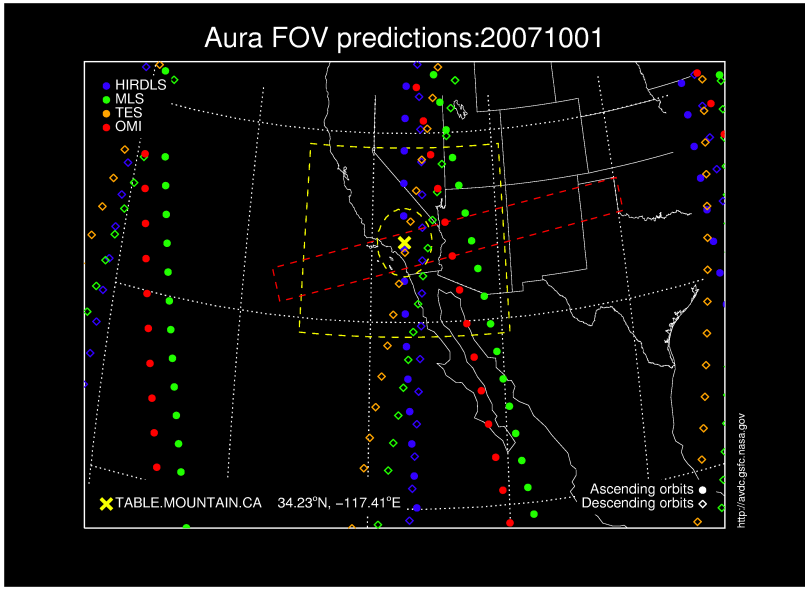
Cal/val support

L2/L3 subsets & colocation

- Sub-setting is updated as Aura L2 data becomes available (Sep 2009):
  - *All OMI products (HDF5 and ASCII)*
    - O3: 570 sites
    - Aerosol: 328 sites, including all current Aeronet sites
    - NO2: 609 sites
    - UV: 174 sites
    - SO2: 165 sites
  - *MLS, HIRDLS and TES*
    - O3, T, H2O at NDACC sites and other key profiling stations
- *Subsetting of non-Aura data*
  - MODIS, GOME2
- Campaign and regional sub-setting on request
- Contact AVDC for information/additional requests

Satellite instrument field of views (FOV)

- Aura FOVs
  - *Predictions in support of PIs and campaigns*
  - *16-day Aura instrument FOV predictions for stations and campaigns (updated daily)*
  - *Actual FOVs*
  - *Actual coincidences and global collocations for temporal and geographic search*
- Generation of FOV for other instruments
  - *Aqua, Terra, CALIPSO, Cloudsat and Envisat for campaigns*
  - *others instruments are easily added*



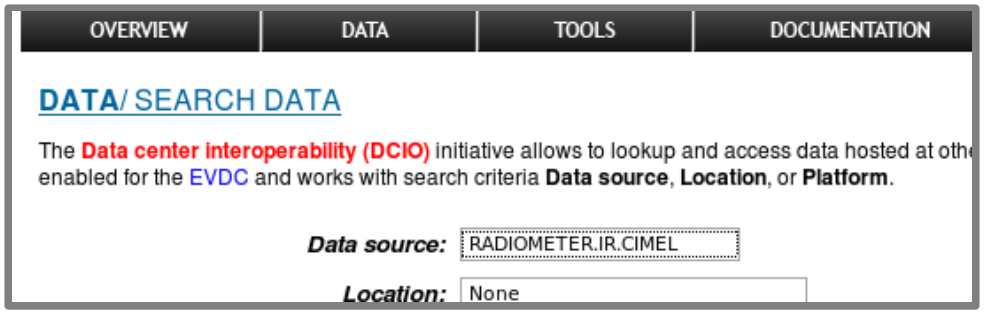
Cal/Val support tools

- Continue direct PI support
  - *Mainly in sub-setting and data conversion*
- Tools and documentation on-line
  - *Creation of HDF datasets (idlcr8hdf + TAV)*
  - *Download tools*
  - *Metadata guidelines (new documentation in finalization)*
  - *Aura ST and WG documentation and presentations*
  - *NDACC AMES formatted data conversion into AVDC/EVDC*
- HDF5 read/write available for correlative data
  - *Download HDF4 and/or HDF5 as per user request*

Validation data centers

Data center interoperability (DCIO)

- Data Centers with correlative observations use a single data format
  - AVDC
  - EVDC (CALVAL, Envisat)
  - NDACC
  - several EC Campaign



- Metadata harmonization
- Interoperable data centers through enabling remote query, catalog replication, data ordering and/or systematic mirroring
- Joint data exchange protocol in discussion (single sign up)
- Effort led jointly by ESA (GECA interoperability project) and AVDC includes new partners: EUMETSAT, EARLINET and GEOMON

GECA mission

Generic Environment for Cal/Val Analysis (GECA) project aims at delivery of

- *Expanded harmonized metadata*
- *Study of standards supporting interoperability between validation data centers*
- *A validation data center implementing these standards, also interoperable with the HMA (Heterogeneous Mission Accessibility) standard for satellite data archives*
- *Open-source data conversion tools*
- *Open-source building blocks (libraries) for collocation algorithms (both for the users local use and for the GECA server*

Future plans

Up & Coming

- Focus shifted to long-term validation
  - *Collect and update ground datasets*
  - *Data completeness*
  - *Harmonization of datasets*
- Continue ESA/NDACC efforts
  - *Share datasets and coordinate submissions*
- Include new data centers
  - Radio Occultation
- Proactive on AVDC side but need support from cal/val and instrument teams

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